

Amendments to the Specification:

Please amend paragraph [0001] to read, as follows.

[0001] The present invention relates to a layered board that is constructed by stacking a plurality of layers. The present invention particularly relates to a layered board applicable to equipment of LSIs (large scale integrations; Scale Integrations; generally, electronic devices), such as central processing units (CPUs) and memories, and an apparatus incorporating such a layered board.

Please amend paragraph [0006] to read, as follows.

[0006] From [[Form]] the above-discussed standpoint of view, there have been proposed methods of using optical wiring or interconnection which are inherently electromagnetic-induction-free, and can achieve EMI-free apparatuses.

[0008] On the other hand, European Unexamined Patent Publication No. EP1219994A discloses a semiconductor device in which a plurality of electrical wiring layer and optical wiring layers layer are stacked, the electrical wiring layers layer is constructed based on a conventional scheme, and the optical wiring layer is constructed as a two-dimensional (sheet-shaped) optical waveguide layer.

Please amend paragraph [0013] to read, as follows.

[0013] Fig. 1A [[1]] is a schematic cross-sectional view of an apparatus illustrating an embodiment of a layered board according to the present invention. Fig. 1B shows an

illustrative example of the apparatus of FIG. 1A constructed as a cellular phone; and Fig. 1C is a cross section view taken along line 1C-1C shown in Fig. 1B.

Please amend paragraph [0023] to read, as follows.

[0023] The signal connecting path of the present invention can be constructed so as to have the function of transmitting the electrical signal and the function of transmitting the optical signal in one united body. The signal connecting path can also be constructed such that its central portion has the function of transmitting the optical signal while its peripheral portion has the function of transmitting the electrical signal. Further, the layered board of the present invention can be constructed so as to include an interchanging unit for interchanging signal transmissions between the transmission of the electrical signal through the signal connecting path and the transmission of the optical signal through the signal connecting path. A chip, such as an LSI, storing transmission protocol can be used as the interchanging unit, for example.

Please amend paragraph [0038] to read, as follows.

[0038] A first embodiment of an apparatus 100 the layered board of the present invention constructed as a cellular phone 1 will be described with reference to Figs. 1A, 1B, and 1C. In Fig. 1A, [[1,]] reference numeral 101 designates a multi-layer layer comprised of plural electrical wiring layers. Reference numeral 102 designates a signal connecting path. Reference numeral 103 designates an electrical via. Reference numeral 104 designates an electrical wire provided in the electrical wiring layer. Reference numeral 105 designates an LSI flip-chip bonded to the multi-layer 101. Reference numeral 106

designates an optical IO device. The optical IO device 106 can be a surface emitting laser (for example, its oscillation wavelength is 0.8 microns, and its optical output is 1 mW) serving as a signal transmitting device. The optical IO device 106 can be a pin photodiode (for example, a material of Si or GaAs can be used) serving as a light receiving device.

Fig. 1B shows the apparatus 100 constructed as a cellular phone 1. Fig. 1C is a cross section view taken along line 1C-1C shown in Fig. 1B.

Please amend paragraph [0048] to read, as follows.

[0048] Operation of the first embodiment will be described with reference to Figs. 1A, 1B, 1C, 2A, [[1, 2A]] and 2B. Here, transmission of data from the LSI 105a to the LSI 105b is exemplified.

Please amend paragraph [0064] to read, as follows.

[0064] Operation of the second embodiment will be described. When high-speed transfer of data is to be performed from the LSI 105a to the LSI 105b, the transfer is conducted through the optical waveguide portion since the transfer is likely to be subjected to adverse influences of wiring delays and the EMI in the event that the electrical wiring is used. ~~used..~~

Please amend paragraph [0067] to read, as follows.

[0067] After being transmitted through the another signal connecting path 102, the light is OE-converted by the optical IO device 106 disposed in the electrical wiring

layer near the LSI 105b. An electrical signal obtained by this OE-conversion is then taken into the LSI 105b.

Please amend paragraph [0075] to read, as follows.

[0075] The signal connecting path 102 is then fabricated similarly to the first and second embodiments. In the structure of Fig. 6, Fig. 6, a penetrating-type signal connecting path 102a and a non-penetrating-type signal connecting path 102b are provided.

Please amend paragraph [0086] to read, as follows.

[0086] In a sixth embodiment, a layered board of the present invention is applied to a PDA which is comprised of a (digital signal processor (DSP)) DSP (Digital Signal Processor) for executing multimedia processing, a CPU, a display, a memory, and so forth. Also in this embodiment, although it is possible to achieve a layout with a relatively high density, it is not easy to attain signal stability. Particularly, when the clock of the CPU largely changes, the EMI is likely to occur, resulting in hindrance to stable operations of other devices. When the layered board of the present invention is used as a printed circuit board in the PDA, the above-noted disadvantage can be solved.